Automatic detection of White Matter Hyperintensities on brain imaging

Master Thesis Proposal in Image Analysis and Machine Learning at the Division Vi3, Dept. of Information Technology.

Supervisors & Contact

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Background

White matter hyperintensities (WMH) are commonly seen in the brain of both healthy elderly subjects and patients with several neurological and vascular disorders. An automated method for quantitative assessment of WMH can be a very helpful component in the neuroradiological analysis of a wide spectrum of diseases.
You will be working with neuroradiologists that will help you to deeply understand the radiological problem and come up with a method to automatically detect and quantify White Matter Hyperintensities on brain imaging. Your method has the potential to be used and tested clinically, helping both the patients and the physicians.

Aim

To develop and evaluate an image analysis method for automatic detection of White Matter Hyperintensities on brain imaging.

Prerequisites

- Proficiency in image analysis/processing and computer programming.
- Experience in medical imaging physics and analysis (e.g., MRI, CT) is preferable.

Examples of published methods: Caligiuri, M. E. et al. Neuroinformatics 13, 261–276 (2015)